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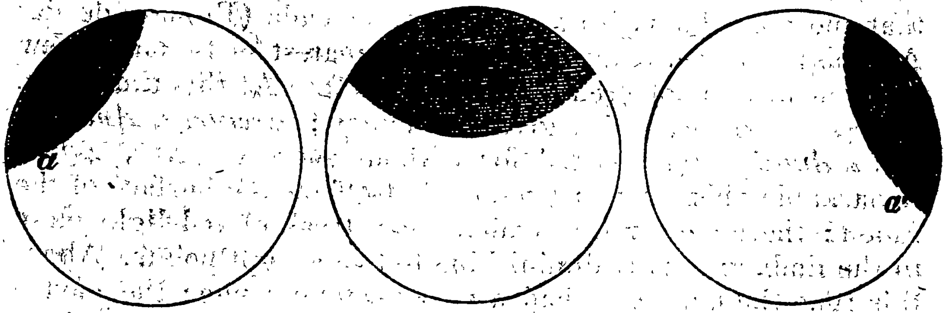
greatest difference of velocity when she attained the two opposite points *a* and *a′*, figures 1 and 3. When the moon reached the middle of the eclipse, as shown in figure 2, and by carefully excluding every ray of direct solar light, the Moon's edge was traceable upwards to a considerable distance from both cusps, as if illuminated by a faint twilight. The conclusion of the eclipse was not seen, owing to the thickness of the sky about that time.

My telescope is a 12-inch Newtonian reflector; the eyepiece I used on the occasion was an inverting one, and the power employed 60 times, which takes all the sun into the field. The projecting glass was a neutral tint, which does not materially affect the appearance of the colour of natural objects.

Inverted Images.

Fig. 1. Fig. 2. Fig. 3.



Commencement, Middle, Termination.

Eclipse of the Sun of 31*st December*, 1861, *observed at Nice.*

By C. G. Talmage, late of the Greenwich and Regent's Park Observatories, Assistant to T. Coventry, Esq., 5 Tavistock Square.

(*Communicated by Mr. Hind.*)

The instrument used was a 5-foot Equatoreal, the stand and metal-work being constructed by Troughton and Simms; but the object-glass, which has a clear aperture of 4 inches, is of Munich manufacture.

Every precaution was taken that the first contact should be accurately observed; and the time, thermometer, and barometer observations are put by themselves, as being easier for reference.

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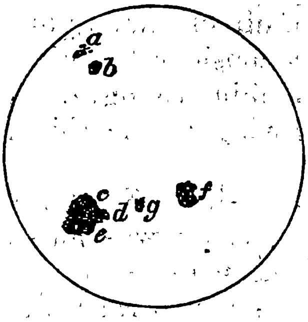
At the total immersion of spot (*b*), it seemed suddenly to blaze forth, and quite a mauve tint was visible all round it. I have only seen one instance on record of such an occurrence (Hind's *Solar System*, p. 65). The Moon's limb presented no irregularities. As the obscuration advanced to its greatest phase, a very sensible difference took place in the temperature of the atmosphere. At about $3^h 25^m$ M.T. a very cold north-east wind sprung up, and blew for about half an hour—so cold that most of the visitors on the promenade (Promenade des Anglois) returned home, and at the greatest phase only a few gentlemen with coloured glasses were left. At this time, also, *Venus* shone forth with great brilliancy; *Arcturus*, *Antares*, and *α Aquilæ* were looked for without success. At $3^h 45^m$, a remarkable phenomenon presented itself on the surface of the Moon: there appeared a semicircular streak of red light close to the limb, gradually diminishing to two abrupt points. About this time the landscape had a very peculiar tinge: the mountains at a great distance appeared of a deep blue tinge, and seemed to stand out with unnatural distinctness. Spot (*e*) was only just grazed by the Moon's limb. The Sun unfortunately setting before the eclipse had ended, we had not an opportunity of observing the time of last contact.



	h	m	s
Nice M.T. of first contact...........	2	27	22·80
Time of first contact of spot (*a*) ...	2	34	31
,, total immersion	2	34	45
Time of first contact of spot (*b*) ...	2	35	53
,, total immersion	2	36	36
Time of first contact of spot (*f*) ...	3	16	30
,, central bisection	3	17	16
,, total immersion	3	18	0
Time of total immersion of spot (*g*)	3	20	5
Time of first contact of spot (*c*) ...	3	21	40
,, total immersion	3	24	0

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	h m s
Time of first contact of spot (*d*) ...	3 26 50
,, total immersion	3 29 30
Time of total emersion of spot (*c*)	3 38 35

Time.	Barom. m	Therm. in Shade. °	Therm. in Sun. °
0·0	30·327	68·8	93·1
0·30	30·327	69·8	90·0
1·15	30·315	67·7	75·5
2·20	30·305	65·7	73·3
2·40	30·300	64·5	72·5
3·10	30·300	62·2	65·0
3·30	30·300	60·3	60·8
3·50	30·300	59·0	59·0
4·5	30·300	57·8	58·8

P.S. The observations were made at the Grand Hotel Chauvain.

Occultations of Stars by the Moon. Observed by C. G. Talmage, Esq.

The observations were made at the Grand Hotel Chauvain, Nice, with a 5-foot equatoreal, aperture 4 inches.

Occultation of R *Aquarii* on Moon's dark limb, January 4, 1862:—

The dark limb was beautifully defined; the star appeared to be bisected by, or hung in, the Moon's limb for 8^s or 10^s.

Nice mean time of disappearance = $7^h\ 34^m\ 3^s{\cdot}00$.

Occultation of 103 *Tauri* on Moon's dark limb:—
Star disappeared instantaneously. January 12, 1862.

Nice mean time of disappearance = $9^h\ 23^m\ 40^s{\cdot}60$.

Occultation of 1 *Geminorum* on Moon's dark limb:—

Star very faint as it neared the Moon's limb. 1862, January 13.

Nice mean time of disappearance = $12^h\ 32^m\ 1^s{\cdot}00$.